

REMARKS

Claims 1 and 4-12 are pending in this application. By this Amendment, claim 1 is amended. Reconsideration of the application is respectfully requested.

The Office Action rejects claims 1 and 4-12 under 35 U.S.C. §112, second paragraph because a feature of claim 1 lacks antecedent basis. Claim 1 is amended to overcome the rejection and now fulfills the requirements of 35 U.S.C. §112, second paragraph. Accordingly, withdrawal of the rejection of the claims under 35 U.S.C. §112, second paragraph, is respectfully requested.

The Office Action rejects claims 1 and 4-12 under 35 U.S.C. §103(a) over Popp (U.S. Patent No. 5,433,950) in view of Ninane et al. (U.S. Patent No. 5,154,909) and Bieler (U.S. Patent No. 4,094,956), and claims 1 and 4-12 under 35 U.S.C. §103(a) over Fox et al. (U.S. Patent No. 5,215,769) in view of Ninane and Bieler. The rejections are respectfully traversed.

In particular, none of the applied references, alone or in combination disclose or suggest an evaporative crystallization process to make salt compositions with a reduced level of K, Br, SO₄, and/or Ca which includes a step wherein a mother liquor containing an effective amount of a crystal growth inhibitor comprising at least one saccharide or saccharide derivative is formed and wherein the effective amount of crystal growth inhibitor is less than 50,000 mg per kg of mother liquor, to form an octahedral or spherical high-purity salt wherein the K and/or Br and/or SO₄ and/or Ca content is at least 5% lower than in salt crystallized from the same mother liquor but without using a crystal growth inhibitor, as recited in independent claim 1. Support for the amended feature can be found in the specification at, for example, paragraph [0005].

Popp teaches a film-forming flexible collodion compositions that can be improved by including one or more topically acceptable polymers in an amount sufficient to increase the resilience of the film formed (Abstract).

Ninane teaches a process for the production of salt in which sodium chloride is crystallized in the form of spheres by evaporation of a sodium chloride brine and the spheres obtained are then broken up (Abstract).

The Office Action acknowledges that a combination of Popp and Ninane fails to disclose that the K and/or Br and/or SO₄ and/or Ca content is at least 5% lower than in salt crystallized from the same mother liquor but without using a crystal growth inhibitor (Office Action, page 3, lines 21-22).

The Office Action cites Bieler in combination with Popp and Ninane in order to arrive at the claimed invention. However, Bieler merely teaches that a rock salt is crushed to a certain particle size range and particles less than 0.5 mm in diameter are removed while the crushed material is subjected to washing with a low sulfate, high NaCl brine (Abstract). Bieler also teaches that the washed particles are then rinsed with a low sulfate brine, drained and dried (Abstract). The Office Action further states that it would have been obvious to one of ordinary skill in the art to remove sulfates from the salt in Popp by using the washing in Bieler because Bieler discloses the washing to remove sulfates (Office Action, page 4, lines 3-7). Thus, the Office Action implies that the manner in which the claimed evaporative crystallization process results in a reduced level of K, Br, SO₄ and/or Ca is through washing. However, the subject matter of independent claim 1 does not recite any washing process. In fact, independent claim 1 indicates that a process that results in a reduced level of K, Br, SO₄ and/or Ca is obtained from the crystallization of a brine using a crystal growth inhibitor that comprises at least one saccharide or a saccharide derivative. Bieler teaches reducing the level of sulfate by washing, not by crystallizing a crystal growth inhibitor comprising at least one saccharide or saccharide derivative. Thus, a combination of Popp, Ninane and Bieler would result in a film-forming flexible collodion composition that comprise sucrose acetate

isobutyrate in an amount sufficient to suppress the crystallization of dissolved salicylic acid from the flexible collodion solution (col. 5, lines 59-62), not in the claimed salt composition.

Moreover, Popp teaches that the amount of crystallization inhibitor is 1 to about 60% by weight of the total composition (col. 5, lines 65-66). Thus, Popp does not teach an effective amount of crystal growth inhibitor that is less than 50,000 mg per kg of mother liquor (i.e., less than 0.5% by weight), as recited in independent claim 1. Thus, a combination of the applied references would not arrive at the claimed invention.

Furthermore, none of the applied references disclose or suggest an evaporative crystallization process that includes a step wherein a mother liquor is formed and wherein an octahedryl or spherical high-purity salt has a K and/or Br and/or SO₄ and/or Ca content that is at least 5% lower than in salt crystallized from the same mother liquor but without using a crystal growth inhibitor. The Office Action seems to acknowledge that neither Popp nor Ninane disclose a salt content that is at least 5% lower (Office Action, page 3, lines 21-22), but does not indicate what the salt content is lower than. What the Office Action does not indicate, is that the salt content should be at least 5% lower than the same mother liquor without crystal inhibitor. The Office Action does not indicate, and none of any of the applied references disclose or suggest such a comparison between the salt content in the mother liquor with crystal growth inhibitor and the salt content with the mother liquor without crystal growth inhibitor, as recited in independent claim 1.

Using the process taught in Bieler on a salt produced by the process taught in Ninane would render the salt produced via the process taught in Ninane inoperative for its intended purpose because the process taught in Bieler includes crushing the salt, which would destroy the spherical shape of the crystals formed in Ninane. Thus, a combination of Bieler and Ninane is not proper because it would render the salt in Ninane inoperative for its intended

purpose since Ninane would not produce the spherical crystals. Moreover, Ninane would thus not be combinable to Popp and Bieler to arrive at the claimed invention.

Finally, all three references, Bieler, Ninane and Popp are from non-analogous art, and as such, a motivation to combine them must be found in the references themselves, as indicated in MPEP §2143.01. Because such a motivation to combine is absent in any of the three references, these three references cannot be properly combined to arrive at the claimed invention. However, as discussed above, even if these references were combined, they still would not arrive at the claimed invention. Thus, independent claim 1 is patentable over a combination of Popp, Ninane and Bieler.

Fox teaches sauces and salad dressings (Abstract). The above discussed arguments related to the combination of Ninane and Bieler are presented anew here. Moreover, Fox comes from a vastly different field of invention, namely, food products, and there is no motivation in Fox to combine its teachings to those of Ninane and Bieler in order to arrive at the claimed invention because there is no indication in Fox of a desirability to obtain a salt composition with a reduced level of K, Br, SO₄ and/or Ca, as recited in independent claim 1. Moreover, Fox does not teach a crystal wherein the salt content of the crystal formed from a mother liquor that contains a crystal growth inhibitor is at least 5% lower than the same crystal formed from a mother liquor that does not contain the crystal growth inhibitor, as recited in independent claim 1. Thus, independent claim 1 is also patentable over a combination of Fox, Ninane and Bieler.

For at least these reasons, independent claim 1, and its dependent claims, are patentable over the applied references. Thus, withdrawal of the rejections of the claims under 35 U.S.C. §103(a) is respectfully requested.

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of claims 1 and 4-12 are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,



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